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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,333	07/21/2003	David R. Muhlbaier		7532

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EXAMINER

PECHHOLD, ALEXANDRA K

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/623,333	Applicant(s) MUHLBAIER, DAVID R.	
	Examiner Alexandra K Pechhold	Art Unit 3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. It is noted that this application appears to claim subject matter disclosed in prior Application No. 09/324,700, filed 6/2/99. The current status of all nonprovisional parent applications referenced should be included, so application needs to amend the specification to note that the parent application is now abandoned.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

3. Claim 2 is objected to because of the following informalities: claim 2 is an apparatus claim, yet recites method steps, which should be left for method claim 1. The applicant should recite the structure, not method steps in claim 2. Also, claim 2, part d) recites "if desired" which is confusing since it is unclear if this step is necessary or not; claim 2 part b) recites "such as" which is also unclear and such language should be avoided. Appropriate corrections required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Huff et al (US 5,030,036).**

Regarding claim 1, Huff discloses a method comprising the steps of:

a) application of means to create a stress concentration cavity at a specific location in soil so that the soil will fracture in a predetermined location and direction, disclosed by Huff as the placement of wells (20) which, as Figs. 1-3 illustrate, are subject to fluid injection to hydraulically fracture the surrounding strata,

b) creation of multiple stress concentration cavities in the soil, disclosed in column 3, lines 65-68 and column 4, lines 1-9 by Huff, in that stress concentration cavities are formed by hydraulically fracturing specific areas around the borehole, Huff noting that "the orientation and extent of fracture can be predicted with some degree of certainty based on the physically characteristics of the strata and the stress conditions of the formation" (Col 4, lines 1-5),

c) application of means to limit the travel of the planned fracture if desired, and prevents the fracture from traveling outside a control zone, disclosed by Huff as the a ring of guard wells (30) (Col 5, lines 49-65),

d) application of means to synchronously pressurize all stress concentrations with a gaseous fracture fluid, disclosed by Huff as the injection of an impermeable material (Col 4, lines 9-18); inherently the fracture propagates toward and connects with adjacent stress concentrations cavities, since they are all in proximity to each other,, and as Figs. 1-3 illustrate, this results in forming a substantially single and continuous fracture throughout the planned location of the fracture,

e) application of means to inject fluid material into the stress concentration cavities causing fluid the material to flow along the fracture plane, this "means" in Huff being the packer which is used to inject the material.

Regarding claim 2, Huff discloses an apparatus comprising:

a) conduits seen as a grid of wells (20),

b) creation of a flattened and generally circular cavity disclosed by Huff as the resulting formations when the strata surrounding the borehole below the packer is hydraulically fractured by injecting fluid at high pressure through the packer at the bottom of the borehole (Col 3, lines 65-68 and Col 4, lines 1-9),

c) installation of a plurality of conduits disclosed as the grid of wells (20) in the boreholes, which are spaced and aligned with the planned path of the fracture,

d) installation of means to limit the travel of the planned fracture disclosed as the ring of guard wells (30) (Col 5, lines 49-65),

e) an air pressure source with automatic controls for each conduit disclosed as the high pressure fluid injection through the packer (Col 3, lines 65-68 and Col 4, line 1),

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f) air injection system disclosed as the injection of fluid at high pressure (Col 3, lines 65-68 and Col 4, line 1), and

g) injection of a fluid material into the conduits disclosed as the injection of an impermeable material (Col 4, lines 9-18).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Pechhold whose telephone number is (703) 305-0870. The examiner can normally be reached on Mon-Thurs. from 8:00am to 5:30pm and alternating Fridays from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703)308-3870. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.


Thomas B. Will
Supervisory Patent Examiner
Group 3600

AKP
5/18/04